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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/332,046	06/14/1999	ORNAN A. GERSTEL	2495.2	2447

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EXAMINER	
LEUNG, CHRISTINA Y	
ART UNIT	**PAPER NUMBER**
2633	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/332,046	GERSTEL ET AL.
	Examiner	Art Unit
	Christina Y. Leung	2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 20 September 2004.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1,3-11,30-34,37 and 39-45 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 1,3-11,30-32,34,37 and 39-44 is/are allowed.

6)☒ Claim(s) 33 and 45 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 33 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terahara et al. (US 6,452,701 B1) in view of Fee (US 6,108,113 A).

Regarding claim 33, Terahara et al. disclose in a wavelength division multiplexed optical communication system having an optical path through which optical communications normally are communicated (Figure 9C), at least one optical node ("hub station A") comprising:

a transmitting portion (such as shown in Figure 11A), arranged to transmit a generated test signal through the optical path, the test signal being an optical signal (column 15, lines 30-35); and

a receiving portion (such as shown in Figure 14), arranged to receive the test signal from the transmitting portion through the optical path, and to monitor a quality of the test signal received through the optical path (column 16, lines 15-25).

Terahara et al. further disclose that the optical path includes at least one loopback mechanism which directs the generated test signal transmitted by the transmitting portion towards the receiving portion, without requiring a conversion of the test signal to or from a non-optical form. Figure 11A, for example, shows an optical loopback mechanism that may be included in the nodes shown in Figure 9C. Hub station A in Figure 9C may generate a test signal

from signal transmitter 28 when the switch 27 in the station is open, while hub station B may optically loop back the signal when switch 27 in that station is closed (column 13, lines 64-67; column 14, lines 1-10; column 15, lines 20-38).

Terahara et al. further disclose that the optical path also includes at least one other optical node (including hub station B), and the loopback mechanism is included in the at least one other optical node (Figure 9C shows how the signal may loop back to hub station A).

Terahara et al. further disclose that the at least one other optical node includes an add-drop multiplexer. Figure 9C shows an add drop multiplexer (not explicitly labeled, but shown in dotted lines and corresponding to elements 10 in Figure 9A and shown in detail in Figure 9B) that may be understood as part of a node that also includes hub station B.

Terahara et al. generally disclose that the receiving portion monitors the test signal received, but Terahara et al. do not specifically disclose monitoring a bit error rate of the test signal.

However, measuring a bit error rate of a signal is well known in the art as way to determine whether a communication path is functioning properly. In particular, Fee teaches an optical communications system, related to the one disclosed by Terahara et al., including monitoring a quality of a test signal to determine the condition of an optical path (Fee, Figure 9, for example, shows the transmission and reception of a test signal). Fee further teaches that a bit error rate of such a test signal may be monitored (column 14, lines 1-15).

It would have been obvious to a person of ordinary skill in the art to monitor a bit error rate, as suggested by Fee, the test signal in the system disclosed by Terahara et al. in order to obtain further information regarding the condition of the optical path (see Fee, column 14, lines

13-15, for example). One in the art would have been particularly motivated to specifically measure a bit error rate of a test signal in order to obtain more information about the condition of the system beyond simply determining failures based on whether a test signal is merely present or not. Measuring a bit error rate of a test signal would allow users to more fully determine if signals are being transmitted properly over the optical path and thus better detect subtler failures of the optical system (wherein, for example, a signal may be present but with an unacceptable number of errors).

Regarding claim 45, as similarly discussed above with regard to claim 33, Terahara et al. disclose a method for operating a wavelength division multiplexed optical communication system (Figure 9C) having at least one optical node ("Hub station A") coupled in at least one optical path through which optical communications normally are communicated, the method comprising:

transmitting a generated test signal from the at least one optical node through the at least one optical path, the test signal being an optical signal (column 15, lines 30-35);

looping back the test signal in at least one optical node towards the at least one optical node through the at least one optical path, without requiring a conversion of the test signal to or from a non-optical form outside of the at least one optical node (Figure 9C; column 13, lines 64-67; column 14, lines 1-10);

receiving back at the at least one optical node the tests signal transmitted from the at least one optical node through the at least one optical path (column 16, lines 15-25); and

monitoring a quality of the test signal received at the at least one optical node,

Terahara et al. further disclose that the optical path also includes at least one other optical node including a loopback mechanism (such as hub station B), and the looping back is performed in the at least one other optical node.

Terahara et al. further disclose that the at least one other optical node includes an add-drop multiplexer. Figure 9C shows an add drop multiplexer (not explicitly labeled, but shown in dotted lines and corresponding to elements 10 in Figure 9A and shown in detail in Figure 9B) that may be understood as part of a node that also includes hub station B.

Again, Terahara et al. generally disclose that the receiving portion monitors the test signal received, but Terahara et al. do not specifically disclose monitoring a bit error rate of the test signal.

However, measuring a bit error rate of a signal is well known in the art as way to determine whether a communication path is functioning properly. In particular, Fee teaches an optical communications system, related to the one disclosed by Terahara et al., including monitoring a quality of a test signal to determine the condition of an optical path (Fee, Figure 9, for example, shows the transmission and reception of a test signal). Fee further teaches that a bit error rate of such a test signal may be monitored (column 14, lines 1-15).

It would have been obvious to a person of ordinary skill in the art to monitor a bit error rate, as suggested by Fee, the test signal in the system disclosed by Terahara et al. in order to obtain further information regarding the condition of the optical path (see Fee, column 14, lines 13-15, for example). One in the art would have been particularly motivated to specifically measure a bit error rate of a test signal in order to obtain more information about the condition of the system beyond simply determining failures based on whether a test signal is merely present

or not. Measuring a bit error rate of a test signal would allow users to more fully determine if signals are being transmitted properly over the optical path and thus better detect subtler failures of the optical system (wherein, for example, a signal may be present but with an unacceptable number of errors).

Allowable Subject Matter

3. Claims 1, 3-11, 30-32, 34, 37, 39-44 are allowed.

Response to Arguments

4. Applicants' arguments filed 20 September 2004 with respect to claims 33 and 45 have been fully considered but they are not persuasive.

Regarding claims 33 and 45, Examiner respectfully disagrees with Applicants' assertion that Terahara et al. do not disclose nodes including add/drop multiplexers. On the contrary, Examiner respectfully notes that Terahara et al. disclose nodes that include an add drop multiplexer and a hub station as shown in Figures 9A-C. Figure 5 of Terahara et al. also generally illustrates how an add/drop multiplexer corresponds to a station in order to allow a particular station to transmit and receive signals to and from the network.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. R. Sedighian

M. R. SEDIGHIAN
PRIMARY EXAMINER